

In re Patent Application of
BURR, JR. ET AL.
Serial No. 09/995,969
Filed: NOVEMBER 28, 2001

In the Specification:

Please replace paragraph [16] that begins on page 6 with the following rewritten paragraph:

Associated with this delay problem in an individual receiver is the probability that different receivers in the network will be simultaneously [[bell]] performing different functions (e.g. playing different files). Yet, all receivers must be able to perform their operations with perceptually no delay, irrespective of the number of different actions being performed. Namely, all actions must be performed with minimal delay or timing uncertainty.

Please replace paragraph [17] that begins on page 6 with the following rewritten paragraph:

In addition to the likelihood that different receivers will be simultaneously [[bell]] performing different functions, there is also the requirement that different receivers perform different actions, so as to allow affiliate stations to insert files whose content is appropriate to their locality, time zone, audience, etc. This enables a network affiliate station to target commercials and other content to that station's listening audience at the appropriate time, but still rebroadcast the network programming. In order to accomplish this, the system must implement some form of group addressing for download content as well as for commands. Examples of groups include time zones, states, FM stations vs.

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AM stations, rural areas vs. suburbs, etc. Receivers must also be capable of belonging to multiple groups.

Please replace paragraph [19] that begins on page 7 with the following rewritten paragraph:

In accordance with the present invention, these objectives are achieved by a store and forward satellite receiver architecture, that is controlled by a multi-threaded command interpreter. The command interpreter responds to one or more, bandwidth-conserving ~~command~~ commands issued to respectively different receiver sites, to access and cause the execution of a sequence of (script file-based) commands stored in an attendant digital file storage unit. The commands are associated with the performance of programmable sequences of actions, such as, but not limited to, the playing back of previously digitally recorded audio files, recording of real-time audio feeds, operating relays, and controlling audio mixers to provide for the professional sounding insertion of recorded material into a real-time rebroadcast audio stream.

Please replace paragraph [20] that begins on page 8 with the following rewritten paragraph:

The commands may invoke other commands, which may have been previously defined and ~~[[be]]~~ customized for each receiver or receiver grouping. These commands may also initiate the execution of other commands stored in files on the local hard disk, whose content varies from receiver to receiver. In

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this manner, the receiver provides network-wide synchronization of local programming and advertising insertion, which may be customized for each individual receiver or receiver grouping.

Please replace paragraph [26] that begins on page 11 with the following rewritten paragraph:

A network interface is coupled between the command processor and a local area network and serves to provide for the transfer of network data files to and from the receiver. This provides an alternative mechanism for transferring stored files to local servers, or for allowing files stored in the receiver's storage unit to be injected into the mixed audio output from the audio mixer. A remote command interface allows real-time control signals to be interfaced between the command processor and a remote control subsystem. A relay closure interface unit is coupled to the command processor to supply control signals to, and sense state signals from, remote relay devices.

Please replace paragraph [29] that begins on page 12 with the following rewritten paragraph:

The provision of a respective first-in, first-out buffer or FIFO in each input command path to the interpreter allows several commands to be received and acted upon, as the command interpreter polls the input command buffers and processes the commands in the order received from multiple users. Since the command interpreter is considerably faster than the rate at which commands are received, commands are

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effectively processed ~~effectively~~ immediately (i.e., the listener's perception is that all events occur simultaneously, with no effective latency).

Please replace paragraph [31] that begins on page 13 with the following rewritten paragraph:

The command interpreter is further coupled to one or more output queues that feed associated decoded 'audio mixer' engines for mixing audio files. As described above, the audio mixer provides for the controlled mixing of multiple audio sources (including the real-time audio stream from the headend, a played back audio feed extracted from the storage unit, and a local audio feed. This allows a mixed audio output to be used for complex actions, including 'spot' insertions, fades, voice-overs, and the like.

Please replace paragraph [34] that begins on page 15 with the following rewritten paragraph:

Commands for controlling the operations of the store and forward receiver are defined in accordance with a reduced complexity, direct threaded programming language, that uses post-fix notation, referred to herein as audio control language (ACL). ACL enables the command interpreter to initiate a download and store ~~[[of]]~~ a file, termed a script, containing ACL commands. Scripts allow several commands to be combined into a complex sequence of events, which require only a single, relatively short (e.g., 'load') command to trigger these

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sequences. Scripts are downloaded from the demultiplexed aggregate baseband signal by the command processor and stored in the digital storage unit for subsequent use. When the load script command is received, the command interpreter opens the appropriate script file and loads its contents into an input command FIFO. The commands are then executed as though received from any other source of ACL commands. Scripts also enable different receivers to perform different actions from a single trigger (load) command.

Please replace paragraph [64] that begins on page 27 with the following rewritten paragraph:

A fifth output port 375 of the command interpreter is coupled to one or more output queues 385 that feed one or more auxiliary engines 395 associated with additional interfaces, such as the network interface 330 and the remote command interface 340. As described above, the network interface 330 may be used to transfer [[of]] network data files to and from the receiver via a local area network. It also enables files stored in the storage unit 300 to be injected into the mixed audio output from the audio mixer 260. The remote command interface unit 340 allows real-time control signals to be interfaced between the command processor 220 and a remote control subsystem.

Please replace paragraph [66] that begins on page 28 with the following rewritten paragraph:

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In accordance with the ACL structure, tokens or symbols within a string are delimited by spaces. Tokens may be either commands or parameters. The command processor is loaded with a token dictionary containing the functions necessary to operate the receiver. If the command interpreter encounters a token that is not in the dictionary, that token is treated as a numerical value (which may be encoded as thirty-two bit integers). The numbers are placed on the data stack (which is used for arithmetic and logic).

Please replace paragraph [71] that begins on page 30 with the following rewritten paragraph:

As described above (ACL) commands may also be included in a stored audio file in the digital storage unit 300. When a file is to be played back from the digital storage unit 300, the ACL commands are extracted from the file and forwarded to the file storage input buffer to the command interpreter. This allows the program to be recorded along with its associated commands and have the commands execute at the appropriate time relative to the program being played. The result of this process is the ability ~~of recording~~ to record a radio program, together with station breaks, as it is being broadcast, and then to replay it replayed at a later time with those same station breaks. For example, the delay may be a few minutes, so that a live program may be shifted, or it may be stored for a long period of time, and then rebroadcast at a time convenient to the affiliated radio station.

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Please replace paragraph [75] that begins on page 32
with the following rewritten paragraph:

Different input processes may employ different
command sets (word lists), so that different users can be-
allowed access [[to]] different command sets. This allows
tailoring the types of actions to be performed by each user. ACL
provides the ability to compile new commands/words into the
command set/list. The definition of a new word or command may
consist of any of the possible actions to be performed by the
command interpreter. Once a new word is defined, it remains in
the dictionary, until removed by invoking prescribed
(delete/forget) commands.